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(54) Title: METHODS FOR MAKING AND USING MOLECULAR SWITCHES INVOLVING CIRCULAR PERMUTATION

(57) Abstract: The invention provides molecular switches which couple external signals to functionality, and combinatorial meth-
ods of making and using the same involving circular permutation of nucleic acid and amino acid sequences. The switches according
to the invention can be used, for example, to regulate gene transcription, target drug delivery to specific cells, transport drugs intra-
cellularly, control drug release, provide conditionally active proteins, perform metabolic engineering, and modulate cell signaling
pathways. Libraries comprising the switches, expression vectors and host cells for expressing the switches are also provided.